

Tibor TÓTH\*

## GLOBAL REGIMES OF WEAPONS AND TECHNOLOGIES OF MASS DESTRUCTION (WTMD): IS SCHRÖDINGER'S CAT DEAD OR ALIVE? WILL WIGNER'S FRIEND SPEAK OUT?

**Thought experiments** applied to diagnose the state of health of WTMD regimes and their external environments:

- **Schrödinger's cat** [https://en.wikipedia.org/wiki/Schr%C3%B6dinger%27s\\_cat](https://en.wikipedia.org/wiki/Schr%C3%B6dinger%27s_cat)
- **Wigner's friend** [https://en.wikipedia.org/wiki/Wigner%27s\\_friend](https://en.wikipedia.org/wiki/Wigner%27s_friend)

Question No 1: Super-positioned realities? Is Schrödinger's cat (WTMD regimes and their external security environment) **dead or alive?**

Question No 2: Will Wigner's friend (**scientists**) **speak out** whether Schrödinger's cat is dead or alive?

	CAT ALIVE	CAT DEAD
REGIMES & REGULATIONS	Adequate	Suboptimal
WEAPONS & TECHNOLOGIES ENVIRONMENT	Managed	Out of control
„BIG PICTURE” ENVIRONMENT	Muddle through	Tension, arms races and major wars

**Weapons and technologies** of mass destruction: a short primer

- Chemical
- Biological
- Nuclear

WTMD **regulations**: a short primer

- Global regulations

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- Global regimes
- Global regulators
- Timelines and trends

A WTMD regulator **revisiting** global regulations

- Chemical: revisiting after 20 years
- Biological: revisiting after 15 years
- Nuclear: revisiting after 3 years

**Regimes** and regulations context: **old vectors**

Diminishing military stockpiles

WTMD eclipsed by climate change and sustainability issues

**Regimes** and regulations context: **new vectors**

- Steady growth of industries and sciences: chemical and bio
- Unfulfilled promises: nuclear
  - Nuclear renaissance and 2008 crisis: financing dichotomies
  - Fukushima
  - Sustainable energy: complementarity or competition
  - Still investing in nuclear? How to justify rationals
    - profitability,
    - safety/security
    - energy cost
- Latency increase
  - Defense embedded
  - Industry (and R&D) embedded

Regimes and regulations context: **triple fatigue**

- Regulation fatigue
- Intergovernmental organizations (and NGO) fatigue
- Cooperation fatigue

Shifting interest from more regulated **towards less regulated** technologies & areas

- from more regulated (chemical) to less regulated (biological)?
- With stockpile reduction (chemical and nuclear) interest shifting from weaponized stockpiles towards less regulated, industry-based capabilities (so-called latency)
- From technologies covered to varying degree by global regulations (chemical, biological and nuclear) interest shifting towards unregulated domains (ICT, robots)

Governance shifts: **global** governmental organizations **eclipsed?**

- New state-level governance framework: „major league” renaissance
  - UNSC,

- G 7/8
- G 20
- G 40 plus
- Topics
  - Nuclear security
  - Terrorism & weapons and technologies of mass destruction
  - diseases
- new competing models
  - bottom-up: Médecins Sans Frontières;
  - mixed (private/public): The Global Fund to Fight AIDS, Tuberculosis and Malaria
  - top-down: nuclear security summit
  - mass-collaboration (mixed): International Panel on Climate Change (outside)

Moving from **microscopic to macroscopic**

- regimes looked upon in isolation? Not enough.
- WTMD looked upon in isolation? Not enough.
- macroscopic „big picture” view imperative

„**Big picture**” environment: **old drivers** — more relevant than ever

- Terrorism & security
- Irrational state behaviour?
- Geopolitical tectonic shifts

„**Big picture**” environment: game-changer **new drivers** ?

- home-grown terrorism / uprisings
- civil wars
- drifting towards major (power) wars
- isn’ t it just Déjà vu?

„**Big picture**”: beyond WTMD environment and beyond WTMD regimes

- From the 2008 Great Recession towards a **Faith Depression**?
- Are we engulfed in a **Mindustrial Revolution**?
- Both at the same time? Mutually complicating synergies?
- Implications of their joint intersection with
  - Collective psyche
  - International security and
  - Weapons and technologies of mass destruction
  - Are we sleep-walking towards a **Great Security Depression**: an all-out major (powers) global conflict

**Faith Depression**: risk of collective emotional hijacking?

- Continued economic and distribution malfunctions?
- After the economic bubble the collective psyche bubble to burst?

- frustration, fear and anger
- impacting collective unconscious and conscience
  - preeminence of collective raw emotions
- risk of ideological extremism and societal polarization
- Collective emotional hijacking by „savor” thought leaders: a historical déjà vu?
  - populism
  - antagonization
  - trivialization of wars
- XXI century „emperors” a push of a finger away from weapons and technologies of mass destruction

### **Mindustrial Revolution**

- A new age
- advances in computer and related sciences and technologies, machine learning, data mining, networking, robotics, cybernetics, enhanced human intelligence and artificial general intelligence
  - reaching critical mass
- Unseen opportunities and new productivity paradigm
- new complexities
  - enhanced tensions within society: old and new divisions
  - safety, security and non-proliferation implications of new tensions

### **Parallel worlds**

- Are we living at the same time in both, 1930 s and 2030 s?
- Superpositioned realities?

Are there **viable tools** to keep Schrödinger’s cat („Big picture” security environment) alive?

- Invisible hand of market: self-correction historically had not worked at times
  - 1900 s
  - 1930 s
  - 1900 s and 1930 s exit strategies: find the culprits outside of the economy (and the country) escaping into forging tension and massive armament programmes
- Quantitative Easing (QE) exhausting its potential? Any other viable financial or economic tool?

Déjà vu? The **pen-ultimate** „market correction”?

- antagonize, create tension and arm the nation
- „Qualitative Tension” replacing QE

**Ultimate** „market correction”: major power wars (again...)?

- Does not work in age of WTMD!!!
- This time is different: sending humanity back to the Middle Ages?

Will Wigner's friend (scientists) **speak out**? Resolve super-positioned reality?  
— Schröder's cat is more and more alive  
— while more and more dead?

**Concerned** scientists no more?

- Scientific rigor puts bonus on mainstream cautiousness
- Political correctness dictates no hyping and no alarmism ?
- Evidence-based science vs. policy-based evidence?
- Industry interests define narrative?
  - No risk-shadow or no image-shadow should fall on industry
  - Regulation fatigue: overall pushback on all type of risks
- Scientific community sleep-walking?
- Scientists emotionally hijacked and drifting with the rest of their society?
- Back to the 1950? Scientists eventually speak out?
- Or, back to the 1930 s or 1900? Scientific great divide?
  - Joining national causes
  - some justified, others wrong
  - some of self-preservation others of conquest and annihilation?

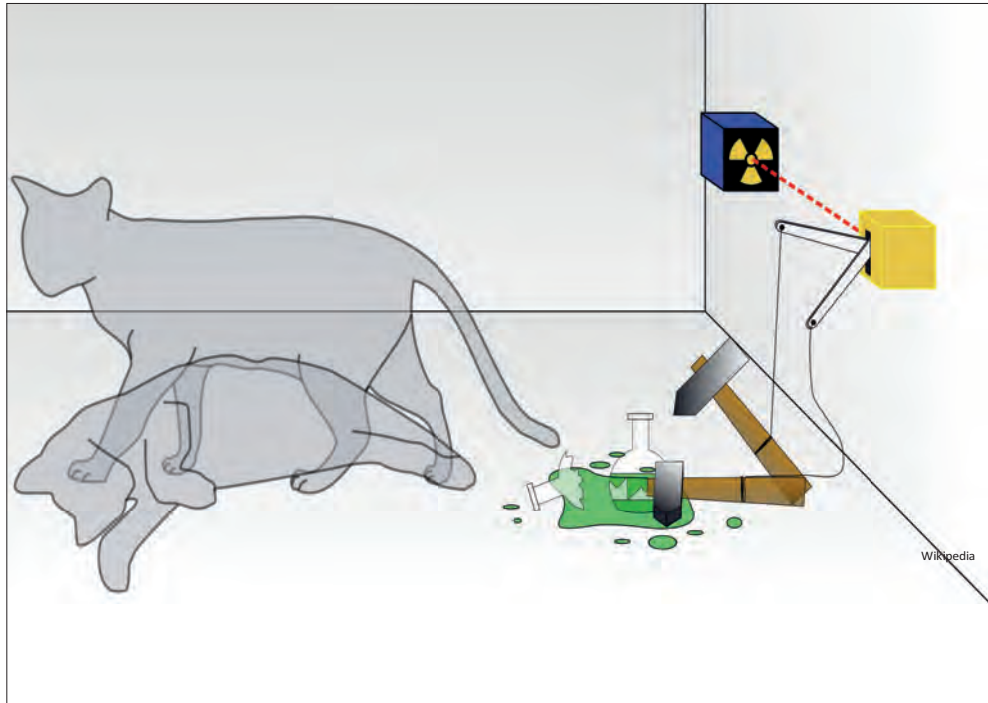
**Quo Vadis?** — „Eo Romam iterum crucifigi (I am going to Rome to be **crucified again**)”.

- Que vadis, regimes? — Not enough!
- Quo vadis, weapons and technologies of mass destruction? — Not enough!
- Que vadis, scientists?
- Quo vadis, humanity?

**Fool me once, shame on you.**

**Fool me twice, shame on me.**

**Fool ourselves thrice, shame on science and humanity.**



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In the hindsight of a decade, did they speak out the right way and early enough?



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- Quo vadis, weapons and technologies of mass destruction? – Too far!
- Quo vadis, scientists???
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